

Notice of Allowability

Application No.

10/632,843

Examiner

Ted M. Wang

Applicant(s)

YELLIN ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/01/2007 amendments.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 04/10/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,603,823 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

2. Applicants' amendments and arguments, filed on 10/01/2007, with respect to Claims 1-4 and 13-15 have been fully considered and are persuasive. The rejections of USC 102(e) and 103(a) have been withdrawn.

Allowable Subject Matter

3. Claims 1-18 are allowed.

4. The following is an examiner's statement of reasons for allowance.

- The prior art fails to teach an apparatus of Claims 1, 5, 11, 13 and 16 that specifically comprises the following:
 - The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. 6,034,986 and US 5,544,156, US 6,539,067 and US 6,084,862. The improvement comprises that

With regard claims 1 and 13, "a priori probabilities of transmitted symbols in one or more samples or a received signal, wherein the a priori probabilities are based on type of the transmitted symbols, and wherein

said equation is an implicit equation for said one or more channel taps." as recited in combination with other limitation as claimed,

With regard claim 5, "a channel tap estimator to generate a maximum likelihood estimate of one or more channel taps using the equation

$$\hat{h}_{ML} = (1/2T) \cdot \sum_{(t=1)}^{(T)} (t) y(t) \cdot z(t; \hat{h}_{ML})^*$$

Where $z(t; \hat{h}_{ML})$ denotes a mathematical scalar process involving said a priori probability, said variance, said vector and said maximum likelihood estimate. " as recited in combination with other limitation as claimed, and

With regard claims 11 and 16, "a second channel estimator, to generate a maximum likelihood estimate of one or more second channel taps of a traffic channel carrying data symbols and interleaved pilot symbols from an equation involving a priori probabilities of transmitted symbols received over said traffic channel, and one or more noise samples, wherein said equation is an implicit equation for said one or more traffic channel taps." as recited in combination with other limitation as claimed.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is (571) 272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Ted M Wang

Examiner

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Ted M. Wang

